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ABSTRACT

The effects of U.S. higher education on foreign students from Brazil were investigated in 1982. Attention was directed to: changes in attitudes toward the U.S. and Brazilian economies, and especially economic relations with the United States; ongoing ties of foreign alumni to the United States and to the colleges attended; and the impact of changed social, political, or economic views on the individual. Interviews were conducted with foreign student undergraduates; graduate students of business and management; graduate students in engineering and other technical fields; and doctoral candidates in a range of fields. None of the students regretted having studied in the United States. However, least happy outcomes were reported by undergraduate alumni, and many reported alienation from Brazilian society upon their return. Graduate school alumni had a much more uniformly positive experience. Many Brazilians were positively affected by U.S. business schools' emphasis on problem solving. Graduate engineering alumni felt that U.S. training put them at the cutting-edge of technology. Post-return frustrations emerged in dealing with government regulations and in continuing work in advanced problems. Recommendations for U.S. government, American colleges, and national/international organizations are included. (SW)

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IIE Research Report Number Five

# fondness and frustration

## THE IMPACT OF AMERICAN HIGHER EDUCATION ON FOREIGN STUDENTS WITH SPECIAL REFERENCE TO THE CASE OF BRAZIL

CRAUFURD D. GOODWIN, Duke University
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With a foreword by Luiz Bevilacqua,
Vice Rector for Academic Affairs, Pontifical Catholic University of Rio de Janeiro

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# Foreword

I am very pleased to introduce and recommend to readers this excellent report on an extremely important theme in the relations between Brazil and the United States. From the perspective of a Brazilian scholar who received his graduate education in the United States, I would like to offer several reactions to the authors' findings.

First, I was most impressed by the widely positive responses from Brazilians who had studied in the United States. I had known this to be true of engineers and scientists, but I was interested to discover it to be the case with graduates of other fields as well. Second, I was struck by the frustration felt by those with undergraduate degrees from the United States and the difficulties in readjustment to domestic conditions experienced by many with graduate training in business. It seems to me that the inflexibility in applying new skills to a different environment exhibited by individuals in these two categories is in striking contrast to the experience reported by engineers. Finally, I cannot help wondering if the answers to some of the questions put by these authors might have been somewhat different if the questions had been presented by non-North Americans, or even other Brazilians. There appears to be a clear "emotional load" attached to many answers. How important is this emotion, I wonder, and is it unique to the graduates of American higher education?

But regardless of the answers to these questions, the findings of this report demonstrate clearly that education in the United States leaves an indelible imprint

on Brazilian students, not only through the specific knowledge acquired, but also through the assimilation of a powerful culture. Creativity, innovation, competition, competence, objectivity, freedom to express one's views and to choose a rational rather than an emotional approach to problems all are words and phrases which appear in the responses of those interviewed.

This report raises important questions which Brazilians themselves should ponder. For example, why is it that graduates with training in American business schools seem unable or unwilling to adjust their newfound tools to the circumstances and challenging problems of their homeland? In the responses to questions presented here, these graduates seem to rail at the environment in which they live, rather than to rejoice in the challenges which it affords. Their education seems to have become a constraining quicksand rather than a liberating foundation for growth. The authors speculate that the explanation for this phenomenon lies in the relative brevity and style of the MBA, which emphasizes straightforward application of a set of tools rather than the adaptation of these tools to particular social and cultural circumstances, or even the development of new tools. I would suggest that political factors may be another explanation for this surprising and disturbing intellectual paralysis.

The finding in this report of some evidence of destructive cultural disorientation among relatively young students abroad should certainly receive attention. Allowing for some exaggeration by interviewees, there is a clear indication that in certain circumstances study abroad may yield more "bad" effects than "good". This finding should not lead to the conclusion that undergraduate experiences must be discontinued, but it does suggest the need for careful design and administration of programs to minimize "cultural shock."

It was a pleasure to read this report which, it seems to me, presents an accurate description of the impact of American culture on Brazilian students. Some comparisons made by respondents between their foreign and domestic experiences may be overstatements based on their pride in an American education, and there is some evidence here of the familiar proclivity everywhere to evaluate what is domestic below what is foreign. Nevertheless, these are matters of emphasis more than of fact.

Above all, the authors are to be congratulated for identifying the problem of the decay of competence of Brazilian scholars, professors, and research workers, and for proposing continued cooperation between the United States and Brazil to meet this problem. I emphasize cooperation because it is the essential responsibility of the Brazilian government to provide the resources to sustain a healthy growth in the quality and quantity of the scholarly community in Brazil. Unless this condition prevails, no amount of assistance from a foreign partner can have much effect. In fact, in the absence of adequate domestic support,

attemps to arrest decay will simply increase the frustration which the authors find to be widespread already.

I would like to draw attention to three of the authors' proposals for action which I fully endorse:

1. Increased support for exchange programs of mature scholars.
2. Joint research by Brazilian and American scholars.
3. Support by multinational companies of research in Brazilian universities and research centers.

Finally, I am not entirely certain that the conclusions can readily be extrapolated to countries in other circumstances than Brazil, although I do consider this report to be a very fair appraisal of the impact of American higher education on Brazilian students.

*Luiz Bevilacqua*
*Vice Rector for Academic Affairs*
*Pontifical Catholic University*
*of Rio de Janeiro*

# 1. Introduction

In the summer of 1982 we completed a survey of policies toward foreign students in American colleges and universities based primarily on extensive visits in three states. A main conclusion of this study was that while reasoned policies toward foreign students could be formulated by each institution, based on educational, economic, cultural, and political considerations, few institutions had done so. Hence the title of our publication, *Absence of Decision* (IIE, 1983). We suggested a framework of analysis which any institution might apply in formulating policy and a list of questions to be addressed.

One of the most intriguing of these questions was "What effects did an education in the United States have on a foreign student?" More specifically, how do these effects influence the self-interest of the educational institution, the region in which the particular college or university is located, and the entire United States? We acknowledged that it was possible only to speculate very generally about answers to these questions. We were able to acquire some evidence from our American travels, but only from the trainers of these students, not from the alumni themselves.

Interest in answers to these questions was directed at three levels. First, what was the typical relationship of a foreign alumnus to his alma mater? Did he or she retain close contact with or lose interest in the institution? Were the memories of the educational experience generally positive or negative? Second, how did the behavior of a foreign alumnus after his return home impinge on the American

economy? Did he purchase American products, provide access to crucial materials, encourage (or perhaps discourage) U.S. investment, provide particular services to multinational corporations, or in other ways affect the purchases and sales of goods and services and the rate of return on investment? Third, did changed attitudes of these alumni toward the U.S. economy, toward their own economy, toward the world economy, or toward economic, social, and political principles more generally, have any tangible impact upon American interests?

Clearly answers to these questions are highly relevant to the formulation of American policy toward foreign students. Yet answers are exceptionally hard to find. One approach is to conduct statistical analyses to determine causal relationships between training in the United States and various economic indicators. Problems with this approach include the uncertain reliability of much of the available data, the large number of other relevant and interconnected variables, and the inability of this approach to capture unquantifiable factors (such as changes in attitudes toward policy) which may in the long run be the most significant of all. There is a high risk of spurious correlation using this method. A second approach is to gather fresh data from foreign alumni through questionnaires. Problems with this research design are the well-known obstacles to administering surveys abroad (especially in the developing world) and more fundamentally the difficulty of eliciting answers to complex questions in written form which often fail to capture the nuances of attitude most influential in determining outcomes.

We adopted a third approach, which we had employed in our earlier survey, of conducting extended and partially structured interviews with respondents who were encouraged, within limits, to carry the conversation into those directions they found most stimulating.

For a case study using this technique we selected Brazil, and conducted our investigations there during the summer of 1983. We made this choice because of Brazil's size, political and economic significance, complexity, and intermediate status as a "newly industrialized country." A special consideration was the mood of introspection in which we found most Brazilians, a natural consequence of the severe economic and political challenges which they faced. This mood, it seemed to us, led them to be exceptionally receptive to our probing, and willing both to reminisce and to think large thoughts about the circumstances in which they found themselves.

We spent most of our available time evenly divided between São Paulo and Rio de Janeiro, with a brief excursion to Brasília, the capital. We made contact with a wide range of alumni of American institutions in virtually all walks of life: Brazilian-owned private corporations, state-owned enterprises, multinational corporations (MNCs), banks, the civil service, universities, schools, research laboratories and institutes, and the media. In addition, we spoke with a variety of

persons not trained in America who were well-placed to comment on the larger scene.

Our technique in the conduct of these interviews was to begin by describing the subject and the questions that grew out of it. We found that typically some questions more than others attracted interviewees, and we allowed them to move freely in these directions. As time went on certain topics grew in importance while others receded. We tended also to check the course of our own understanding with later respondents and try to determine where consensus might lie.

We have no illusions that those with whom we spoke were a representative sample of American alumni in Brazil, nor indeed that Brazil is a "representative" country, whatever that may be. Historically, Brazilian-American relations have been close. Brazil was the only Latin American nation to commit combat forces to allied units during World War II, and most Brazilians appear to be instinctively positive when dealing with Americans. Indeed, the enormous geographical size of Brazil and the frontier spirit of many of its citizens are often noted by Brazilians as the basis for many similarities between their own country and the United States. Nevertheless, we sensed that our findings were of larger significance than just with respect to the group with whom we talked in the country which we visited. These observations, we strongly suspect, are suggestive of conditions and attitudes in other countries as well.

In the chapters which follow we report what we heard. Inevitably this is filtered and interpreted by us with weight attached to people and arguments we found especially persuasive, interesting, and significant. One person with whom we spoke told us that we were conducting ethnographic research of the most modern style. We admit to nothing as formidable as this. We have merely prepared an essay which we hope will be stimulating, provocative, and perhaps even instructive in a preliminary way to those who are required to make and evaluate policy on this vital subject.

In a country where we arrived with no acquaintances, let alone friends, and did not speak the language, we were totally dependent upon the generosity and cooperation of many individuals. This we received in great quantity. Many extremely busy people took time out from hectic schedules to talk with unknown travelers on what must have seemed like a fool's errand. We do not cite most of them here because of space limitations and because we do not wish to associate them, even indirectly, with a document which they might not wish to endorse.

We do, however, particularly wish to thank persons who arranged our itineraries in the three cities we visited: Irene Felman of ALUMNI in São Paulo; Maria Helena Da Camara Leme of the Ford Foundation office in Rio de Janeiro; and Kyra Eberle of the United States Embassy in Brasília. Without the assistance, insights, and persistence of these new friends we could not have accomplished our task.

We wish also to express our appreciation for the financial support that this study received from the Landegger Charitable Foundation and the Ford Foundation.

We have chosen to discuss our findings first according to the four principal types of higher education which our interviewees pursued in the United States: liberal arts and sciences to the bachelor's level; "technical" master's degree in fields such as chemistry and computer science; the master of business administration; and finally the doctor of philosophy degree in all fields, especially the social sciences. (We did not probe professional fields such as law or medicine.) We shall then provide a brief section covering miscellaneous topics which fell outside this fourfold division. Finally, we shall conclude with an interpretation of what this investigation revealed to us, and we shall offer recommendations for national policy which, we believe, follow from our findings.

# 2. Alienation and Affection:

## Undergraduate Liberal Arts Education

It was striking—indeed almost startling—that throughout our conversations we did not meet a *single* person who expressed regret at having studied in the United States. We thought these to be genuinely positive reactions, not merely offered to please two visitors from American academe. Only one person could even recall having heard expressions of disillusionment or dislike from another Brazilian. It was that much more surprising, therefore, that we encountered very little support for Brazilians pursuing undergraduate study in the United States.

Some of the opposition had a protectionist ring: "We have perfectly good undergraduate colleges; why send students away?" Others offered their judgments based upon the best use of scarce resources: "We can only afford to send a few students abroad; they should be at the graduate level." And, of course, most of the people with whom we spoke had indeed gained graduate degrees in the United States and might, therefore, be expected to harbor some bias in this direction. Coincidentally, we heard undergraduate study abroad criticized several times before we had an opportunity to meet and talk over the phenomenon with those who had experienced it.

But the most powerful arguments against undergraduate education outside Brazil were not on these utilitarian grounds. Rather they revolved around an ill-defined phenomenon which we heard discussed more than any other during our conversations: "alienation." The critical argument ran approximately as follows: Brazil, like all developing countries, requires a strong and committed middle

class to achieve viable democratic institutions, social progress, and sustained economic development. The commitment to achieve these goals can come only from those who are immersed in their own culture during their impressionable and formative undergraduate years. Undergraduate study abroad, especially in such an environment as that of the United States, leads to "cultural absorption" and alienation from the homeland upon return. Not only would these undergraduate alumni not "know Brazil", we were told; they were likely to be repelled by it and unable ever again to come to grips with many aspects of Brazilian society. One critic of undergraduate study abroad offered the following observation: "If someone without well-established roots in his society is sent abroad to study, he comes back rootless without a sense of where he truly belongs." Another commentator put it to us that "maturity" should be a prerequisite for study abroad. A mature graduate student could easily distinguish between the admirable features of American higher education (dedication, dependence upon logical reasoning, discipline by competition, and an overall "sense of reality") and the irrelevant distractions (fraternities, frenetic social life, semi-professional athletics). Young undergraduates faced with a strange culture as well as the normal academic rigors were likely to adopt the former and in the worst cases neglect the latter. On returning home these graduates were likely to feel serious disorientation, and even loathing, toward family, friends, cultural norms, and political and economic institutions. They would have to make a secondary adjustment to reverse culture-shock, which was often worse than the primary adjustment which they had endured in the United States. Others would never recover from the experience and might degenerate into cynicism and near schizophrenia—little use to their native country or to the one which had given them their college education.

It was fortunate that we heard the arguments against undergraduate study made so forcefully before we heard, and could test, the response. The reaction from those who had lived through undergraduate years abroad was almost as complex as the critique. In general all conceded that alienation or at least significant frustration was indeed a problem; for one, this was solved by a few months of adjustment. For another, it dictated a life-style of vacations in the United States and dependence on American culturai exports. For a third, it had led to a rootless life, moving back and forth between Brazil and the United States like a human yoyo, feeling uneasy and frustrated in the former and guilty in the latter for not contributing to the development of the homeland.

But those who had really experienced the American college life were able to provide illustrations of "benefits" which, they thought, justified the "costs" of alienation. One member of a privileged Brazilian industrial family who after an American preparatory school took an undergraduate degree in the United States spoke of the profound effect this experience had had upon his entire life-style

and behavior. In contrast to his peer group in Brazil, which he claimed pursued a jet-set hedonistic existence, he had been trained to take a responsible interest in the circumstances around him and to think, read, and discuss. While the conversations of his Brazilian friends centered on fast cars and local scandal, he found his main interest to be in the economic and political problems of the nation and broader concerns about world affairs. His American training made him "forward-looking" in contrast to the search for instant gratification of his locally educated cohorts. Moreover, his U.S. experience gave him a "standard for local appraisal." He now found himself invariably judging Brazil by American criteria which he thought was neither unfair nor unfortunate. He saw contemporary Brazil passing through a "renovation in values." For what the country would become the United States could be the model. But for this to happen it was necessary for there to be an ample number of sophisticated interpreters. He was convinced that only as an undergraduate did one have the time and the real incentive to learn the foreign language and culture—to "get into American life." This individual was quick to accept the notion of alienation from his Brazilian environment as a consequence of his American experience. To this condition he added an acquired difficulty in understanding and sympathizing with some parts of his native environment, and the need to respond to charges of "selling out to the imperialists." On the positive side, however, he stressed the ease of doing business with Americans. Not only were there his former school and college chums as points of contact for commercial interactions, but with accentless English and total acculturation he felt fully "comfortable" with American business partners and they with him. He emphasized that "culture permeates business life" and cited for contrast the difficulties he encountered in doing business with the Japanese. To the extent that such interactions were a source of capital, technology, and markets, in his view, his undergraduate education was an excellent investment for both Brazil and the United States. (The facilitation of both business contacts and recruitment is even more pronounced among American-trained MBAs, whose experiences are examined in the next section.)

Another successful businessman with an American undergraduate degree pictured the experience as a major existential transformation. He felt he had been thrown into the great world of competition to win or lose in proportion to the efforts he exerted. He had seen the "real world of Darwinian struggle" and it appealed to him. He claimed that Latin entrepreneurs needed to develop a stronger sense of personal responsibility, and there is nothing like a highly competitive American college to help implant this feeling.

One rather rootless graduate of American higher education who had worked widely in the public service told us that from his experience an American undergraduate education made Brazilians forever unwilling to accept with equanimity abrogation of human rights, discrimination against women, contempt for

consumers by manufacturers, and other ills which they had learned to protest during their student days in the United States. From one perspective this could be seen as destructive alienation. From another t was sowing the seeds of positive change!

In sum, it must be emphasized that relatively small numbers of Brazilians pursue undergraduate studies in the United States, and many of these are from affluent backgrounds. Our dominant impression from interviewing several such individua!s is that this experience can produce a pronounced cultural affinity toward the United States which holds the promise of being translated subsequently into bilateral commercial and investment ties as well as into a valuable comparative perspective on local conditions.

# 3. Frustration of a Valuable Kind: Graduate Training in Business

We met a large number of Brazilians who had studied business at the graduate level in the United States—some at America's most prestigious business schools such as Chicago, Harvard, Stanford, and Wharton, and others at a variety of institutions, public and private, in all parts of the nation.

*Why Do They Come?*

For many with a commitment to a career in business the lure of the United States was simply too powerful to ignore. The United States is seen as the leading nation in the world in advertising and sophisticated marketing techniques as well as in other aspects of business practice. Accordingly the American master of business administration (MBA) program is the ultimate educational goal for the budding manager or entrepreneur. At least it was thought to be so from the late 1950s, when graduate-level business education was first introduced into Brazil's own higher educational system, well past the mid-1970s. Business students were drawn to the United States especially by their curiosity and excitement concerning the dynamic American economy. Virtually all with whom we spoke claimed to be unabashedly supportive of the free market before they came to the United States, and what they found tended merely to confirm their judgments.

Particular characteristics of Brazilians who attended business school in the United States were their open consumerism, and the sentimental base on which their education decisions turned. One interviewee told us that as a child he had

dreamed of American cars and Hollywood. Traveling to the United States to study business was akin to a pilgrimage to Rome for a career in the church. Perhaps most surprisingly the glamour attached to American business for these students seemed even to have been intensified by their time in Mecca. The MBAs were the romantics of our student sample, those who most unreservedly championed all features of American society. They were the ones who said they could easily return to live permanently in the United States. One observer doubted that there were many "conversions" among the MBAs; they were converted to the American system before they even reached America's shores, self-selected for the experience. And yet several of the romantics did tell us how their images had to be corrected quickly upon arrival. They had gone expecting to see Beverly Hills but had often found themselves in inner-city Chicago, New York, or Philadelphia. After a period of "disorientation," however, they regained their admiration and uncritical regard for the fruits of American capitalism.

*What Do They Learn?*

Some of what the Brazilian students found in their business schools was not what they expected. We were told by many interviewees now working in very different organizational settings in Brazil that the emphasis on problem-solving was an unanticipated but invaluable feature of their business education. They learned how to be objective and creative, how to formulate realistic business goals and to reach them. They discovered that there might be several valid solutions to any given problem. In short they became *results-oriented.* While the fast pace took some getting used to, the students found many ancillary benefits, including perfecting the art of memo writing, effective and succinct oral presentation, and a keen sense of how to determine priorities when faced with complex business situations laced with competing and often conflicting considerations. Students developed the ability to treat quantitative business data, to make tough decisions in a high-pressure environment, and "not to take things at face value." One graduate described his curriculum of technical business courses mixed with the social sciences as "an intellectual bouillabaisse." From this soup, students learned how to pick and choose, and above all, they "learned how to learn." It was argued by many that the demanding work load sharpened their analytical abilities to the point that these skills will now remain with them forever. The single most powerful impression most graduates brought back from studying and living in the United States was the power and pervasiveness of the market in all facets of American life. One recent returnee reported his astonishment to discover that his professors seemed even to settle upon their research topics after conducting market tests. We heard again and again how living in the United States had brought students directly in touch with "the people who make an economy work," not only the managers, but entrepreneurs big and small, and

above all the shrewd and demanding consumer. We were told of new respect gained for incentives, both punishments and rewards. One Brazilian said that he had been persuaded unequivocally by the American economy that no other system could work as well as one based on reasonably free markets. "You simply cannot believe that the consumer can force improvements in product quality unless you see it happen around you."

The combination of knowledge and skills acquired in the context of a stimulating living experience was highly prized by virtually all those we interviewed. Some did find the business school more of a "repetition tower" than an institution that cultivated creativity. And many Brazilians noted how inward-looking most Americans were despite their global business activities, and how little they knew about Brazil or any other part of Latin America (e.g., the often-quoted question, "Isn't Buenos Aires the capital of Brazil?"). Nonetheless, others observed that attending business school in the United States was itself an internationalizing experience simply because upwards of 25 percent of their classmates were non-American. Several remarked to us that at a time in Brazil when there was a lot of uncritical adulation of "the Japanese model" and other foreign alternatives, their American experience had not diminished their preference for American institutional forms and had provided them the international perspective to offer a critical judgment on facile recommendations for the re-orientation of Brazilian economic life.

*The Re-entry Problem Once Again*

There were several striking parallels between the experiences of the graduate student in business and those who studied science and engineering (discussed in detail in the next section). Frustration upon return once again was a common theme. Examples abound.

- In U.S. business schools there is heavy emphasis on perfecting concepts of strategic planning. But in Brazil, with extraordinary inflation, wildly fluctuating foreign exchange rates, and volatile business conditions overall, "two weeks is the outside limit for strategic plans." Therefore in this situation few of the American analytical techniques seem to apply without substantial adaptation to these changed circumstances.
- Many Brazilian-owned firms are dominated by family decision-making processes and are inhospitable to modern management methods (e.g., "build this building here; my wife wants it there"). The MNC is often the only place to put these newfound tools to work. One person told us that after receiving his American MBA he received almost fifty offers of employment in Brazil, but almost all from MNCs.
- Business school graduates seek to maintain their American and other international ties upon returning home. But this is much more difficult in Brazilian

companies, many of which tend toward provincialism, than in MNCs. The tools of modern business education are sophisticated and dynamic. But they degrade quickly unless routinely applied and updated. How can this be done? Evidently midcareer refresher courses in business are known in Brazil, but these are conducted mostly by MNCs; several respondents, who were typically rather derogatory of Brazilian business education, were not certain whether such courses could be successfully introduced by local firms or colleges.

- As in some other fields of study, the exceptional dominance of business education abroad by a mere handful of American schools was thought to be unbalanced and potentially destructive for the Brazilian economy. It made possible a critical mass for alumni association meetings (one of which we attended), but it also made the nation peculiarly subject to fads and fashions in U.S. business education.
- Many MBAs are increasingly reluctant to become associated with state-owned enterprises (which have been active in financing study abroad), because pay differentials with the private sector have widened and the perception has developed that "corruption and incompetence are a way of life." Moreover, they find their original predisposition toward the private sector strengthened by their American sojourn.
- It was claimed by some that the majority of the tools and factual information imparted to students in U. S. business schools cannot for a wide variety of reasons be applied in Brazil. During their American training they were immersed in market theory where price signals and profit incentives were the determinants of action. Yet in the Brazilian reality around them politics was the dominant force. As one recent graduate told us, "To be taught the power of reason and to be denied the opportunity to use it is profoundly disturbing."

Still there were many bright sides to the story. It was noted on several occasions that MNCs served as useful re-entry points to Brazil after studying at an American business school, and a good number of MBAs hoped to perfect their skills in such environments and then either strike out on their own or join a progressive Brazilian-owned company. This was judged by many to be a more propitious approach than seeking to induce change immediately within the indigenous corporations. Moreover it was widely accepted that the MBA training provided the recipient with an international cosmopolitan perspective and a multilingual capability that would stand him in good stead throughout his lifetime. In aggregate terms this was bound to help the Brazilian private sector over time. The MBA graduates characterized themselves and were described by others as a "high leadership category, prone to risk-taking, and brimming with self-confidence." The MBAs in short were becoming *a new entrepreneurial class* in Brazil. When asked what difference the American-trained MBAs made to Brazil one replied characteristically, "We make a hell of a contribution."

*Results for the Students and the Nation in the Long and the Short Runs*

As with technical graduates, whose experiences are discussed in Section 4, we were repeatedly told that the Brazilian with an MBA from the United States is on a sharply upward career trajectory and that the degree serves as an important filter for hiring purposes. Although our sample was far from systematically selected, we encountered numerous instances in which Brazilian MBAs trained in the United States who are now in senior management positions looked to their alma mater or to other American business schools for their new recruits. In essence then there is a *self-perpetuating recruitment system* at work, since the U.S.-trained MBAs in MNCs engage in routinized recruitment processes, while most Brazilian-owned firms, without such personnel already on their staffs, are unable to benefit from such practices and in some cases are totally ignorant of them. One thoughtful American business school graduate, now deeply involved in business education in Brazil, put it this way:

> "Studying in the States is a broad internationalizing experience. You learn a foreign language and the American culture. This leads to a certain liberalization of attitudes. I became more tolerant of a perspective other than my own on social as well as professional issues. For example, before going to the States I was dead set against abortion. Now I do not know if I've changed my mind, but I can certainly see the other side of the argument. I didn't think about the subject before I went. I grew to respect the emphasis on competition in the United States, but the ethos of 'clobber thy neighbor' struck me as offensive."

This individual noted that the importation of American business ideas into Brazil had had mixed results. Some models of management had been applied in state-owned enterprises to introduce efficiency into government, but these efforts had not fared very well. The inconsistencies between practices designed for the modern corporation and the ethos of the public corporation had not been effectively resolved. However, the case method of instruction used in American business schools had been adopted in Brazilian centers of business education with resounding success. In essence, then, the United States had provided a basic style and philosophy for business education in Brazil which had previously been lacking. This important instance of technology and information transfer had been accomplished largely through the use of business school teachers who had received their training in the United States.

Not only was it the case that problem-solving approaches and rewards to entrepreneurship were transferred to Brazil through American training. Even on the ethical front the translation on occasion was striking. We were told that MNCs, and even some Brazilian-owned firms following the U.S. lead, had introduced

conflict-of-interest forms for employees as one means of reducing corrupt practices. This innovation was attributed directly to the respect for such legal instruments that the American-trained Brazilian brought back home. Since it was asserted by some of our interviewees that corporate corruption is widespread in Brazil (tax evasion being an especially common practice), it was argued that the importation of ethical American business practices was most welcome. Several Brazilians remarked to us rather angrily that it was ironic indeed that while in their view American corporations operating abroad held to ethical standards far above those of the domestic companies around them (probably for a mixture of moral and tactical reasons) the street rhetoric pictured just the reverse.

Because systematic education for business on the American model is still relatively new in Brazil, its practitioners, graduates, and adherents feel rather like missionaries. They are convinced they recognize what the nation needs and their task is to bring the message to the unconverted. Varying this metaphor somewhat, one Brazilian compared his role as a disseminator of American business culture in Brazil to that of a disease vector, contaminating all those with whom he came in touch.

Corporate training programs were another aspect of business education looked upon with great favor by our interviewees. For Brazilians working for American-based MNCs, these programs provided an opportunity to become familiar with state-of-the-art thinking in corporate headquarters, to renew old professional and social ties for those who had previously studied in the United States, to become more visible to high-level officials at headquarters, and to broaden one's perspective generally about the affairs of the corporation. Even though such programs might last just a few weeks, they usually made an indelible impression on the student who normally recalled the experience most fondly. Evidence of the meaningfulness of these programs was found in the ease with which course notes, texts, and other training materials could be retrieved in our presence (usually positioned prominently near the elbow of the former student), even if the course was taken years before. One engineer who established and directs the research effort of a major state-owned enterprise spoke particularly forcefully about his experience with a corporate training program in the United States:

> "It was almost twenty years ago. I enrolled in the course run by a leading American firm with whom I was not even employed. The course was open to selective nonemployees and I was lucky enough to be able to attend. In the three-week course not only did I become familiar with all the latest techniques of analysis and research findings in the field, I came away with a much sounder appreciation of how to conduct such courses myself and even how to run a major research facility. Years later, more than the technical material, it was the management techniques to which I was exposed the

that I today find most useful. When I was asked to set up this entire research effort ten years ago, I relied most of all on my training experience in the States."

A number of additional positive linkages between the Brazilian businessman and his American experience were noted. "I have better access to current information sources," observed several interviewees, noting that they had come to appreciate the value of reading *The Wall Street Journal, Fortune, The Financial Times,* and other prominent business publications. A consequence of these acquired reading habits is a more sophisticated understanding of their own economy as well as of international economic issues and conditions and how these in turn feed back on their domestic situations. One businessman suggested, for example, that only since he had studied in the United States had he fully understood the deficiencies of state-owned enterprises in his own country.

In several instances tangible trading and investment relationships were cited as having developed directly from the Brazilian's study abroad. Commercial banking relationships and "all sorts of joint ventures" have materialized. It was argued that "an original loyalty" develops between the foreign student and the individuals and institutions with whom he interacts while overseas. "You become partly American when you study in the United States. And since much of a business transaction is a matter of effective culture communication, you bridge the cultural gap through foreign study. Then enhanced business relationships naturally follow suit."

One of the purposes of our visit to Brazil was to gain a sense of whether there was an ascertainable relationship between training and trade. When we put this question to MBA graduates, typically they thought the answer almost too obvious to repeat. We heard from one banker how when he set up a system of machine-tellers he automatically turned to an American supplier he had known in the United States. Another favored U.S. earth-moving equipment; and so it went. Naturally it was not possible to determine how different these purchase patterns might have been in the absence of the business training, but we could not help but conclude that "student familiarity breeds commercial interaction."

It was repeatedly stressed that the orderliness of American business training (in contrast to much European training) is especially valuable. "U.S. schools use syllabi that have a beginning, a middle, and an end." American-trained personnel are therefore better able to teach others. Hence it is particularly valuable to send faculty to the States for training, because of the great multiplying effect this could have when these individuals return and offer the material they were taught to Brazilian business schools.

Stripping the argument to its essentials, business education was judged to be a form of technical assistance in which, more than anything else, Brazilians were

instructed how to 1) understand a problem; 2) analyze the situation; and 3) decide how best to resolve the problem. As one businessman put it to us, this knowledge can be acquired in several ways. There is the *Peter the Great Approach*, where you go abroad to learn "how it is done," and the *King of Siam Option*, where you bring the expert to you. Some combination of these two approaches will, it was uniformly felt, continue to supply Brazil with the lifeblood of new management ideas which are essential for the society to achieve its goals of economic development, social justice, and sustained prosperity.

*Recommendations for Change*

We pushed our interviewees hard on what recommendations they could offer that might make American business education more valuable for non-American students. They offered several suggestions. First, many business school curricula are excessively theoretical and emphasize unnecessarily minor methodological points that have no bearing on real world problems. The business school is a "high-velocity environment" with academic rigor and depth and this is all to the good. But there needs to be more exposure to the actual business environment and less to the esoterica of theory-building which is of no value to the practitioner. (This point obviously applies more to some business schools than to others and the implication was that non-American students should avoid these schools).

Second, there should be a more concerted effort to develop case materials that address non-American business decisions. Often there is an excessive effort at "homogenization," trying to place everyone in the same mold, extrapolating from one country to all those in the same region. Cultures and business conditions obviously differ markedly in distinct socioeconomic and political systems and these differences are not reflected sufficiently in the various MBA programs. Improvement in the appreciation of cultural diversity in the business world was just as important for the American as for the foreign student, our contacts observed. Comments on this topic inevitably took us somewhat beyond formal business school training into the larger cultural milieu in which foreign students find themselves. The Brazilians asserted that Americans know their analytical tools better than facts; they tolerate internationally illiterate media; and they are themselves anachronistically self-centered at a time of increasing global interdependence.

Third, top Brazilian businessmen who do not themselves have formal training in business administration need to be exposed to the MBA programs, not to master the techniques *per se* but to gain a general appreciation for their power and for the contribution that MBA graduates can make to their success. Unless top industrialists in Brazilian-based firms become aware of the value of a modern business education, American-trained students will continue to flock to the MNCs and these firms will continue to dominate the local economy. As one Brazilian

MBA put it to us, "It takes one to hire one." Somehow this maxim must be changed. Although American graduate business training is in effect a form of technology transfer to Brazil, it will not have the full impact it could have unless Brazilian executives become convinced that human capital investment in new MBAs is worthwhile. On balance therefore steps need to be taken to diminish the "sophistication gap" between MNCs and local enterprises. As it stands now the MNCs recruit and retain many of the best foreign-trained Brazilian MBAs which enhances their competitive advantages in marketing techniques, financial planning, and product development. Unless Brazilian-owned firms utilize American-trained MBAs more effectively, this gap will continue to grow to the overall detriment of the Brazilian economy.

Fourth, more indigenous business groups need to be formed to consider macroeconomic policies and the impact of microeconomic decisions on macroeconomic problems. Groups patterned after the Business Roundtable and the Conference Board would be valuable in providing independent advice from the business community to government policy makers and generally to facilitate government-business communication and interaction. As one key industrialist observed: "We need to elaborate our sense of self-criticism." Perhaps, he continued, American business schools should strive as hard to teach their graduates about the larger business culture and concepts of corporate social responsibility as about the details of business practice.

Fifth, efforts should be undertaken to demonstrate the broader value of management training. Not only would domestically owned corporations benefit from more highly skilled managers, but the public sector as well requires efficient leadership. One person deplored the widespread belief that modern management was needed only in the private corporation and was inextricably tied up with a profit-seeking capitalist ideology. In the state-owned enterprise, and more widely in the government bureaucracy, a market for the MBA should open up without limit. Some of the business graduates we interviewed had, indeed, spent some time in government. But they all agreed that their services were neither appreciated there nor employed effectively. They spoke of the special challenges posed by public enterprise, and particularly the absence of feedback and control mechanisms embodied in a competitive market system. But they argued that, more than any others in Brazilian society, they were equipped for the task of making government work.

# 4. The Path to Progress:

## Technical and Semi-Professional Graduate Training

For those Brazilians pursuing technical careers, whether in computer science, mechanical engineering, or solid mechanics, advanced training in the United States was seen by one and all as the "fast track" to success. The perception of the United States as being on the cutting edge of technological advancement, symbolized most recently by the wondrous developments in information-processing emerging from Silicon Valley in California, draws the non-American scientist and engineer to the United States like a magnet. "It was a chance for me to complete my training," we were told proudly by more than one interviewee.

Although an American degree was perceived as the key to success, we were surprised at the widespread unfamiliarity among Brazilians with the relative quality of U.S. graduate and professional schools. Three or four universities seemed to be on everyone's lips. But after that came ignorance. One satisfied graduate told us how she had accepted a seventh-choice school with deep disappointment only to find that it was far better for her purposes than the one she and most other Brazilians sought to attend.

Clearly the attraction to pursue technical training in America was not solely one of intellectual curiosity, of acquiring the most advanced knowledge in a particular area of specialization. There were several other motivations. First, the returnee sensed that he could translate this new knowledge into tangible upward mobility. Second, the experience satisfied a great appetite to savor first-hand the American way of life. This was true even though adapting to the American academic

pace was no simple task. Most Brazilians acquired their undergraduate training at home while working part-time or even full-time. In contrast their course of study in the United States was usually not only extremely demanding, but it was their first exposure to a full course load and intense competition from a large number of highly qualified fellow students.

In substantive terms it was made plain in our discussions that 90 to 95 percent of the technical work conducted in Brazil is dependent in one way or another on American concepts or devices. To be literate in the computer field, for example, means to master the computer languages and manuals which are written in English (even those of Japanese manufacturers). Indeed, English was described as the *lingua franca* for all of electrical engineering, and learning this language fluently is essential to a productive career in the field.

Most graduates reported that they had been trained in English to some degree before leaving for their master's degree. Indeed they had been required to demonstrate a minimum level of competence by the graduate schools before they were admitted. But an easy command of the language was rarely in hand. One engineer told us that after two years in the United States he was now able to pick up the telephone, as he often does, to discuss a problem or a piece of equipment with a colleague or supplier in North America. He confessed that he would not have had the self-confidence to do so before gaining complete fluency in an American graduate school. What had been a language barrier before had now become a language bond and continued to support his integration within the worldwide technical community.

Reintegration into Brazilian professional life was not an easy task for the returning technical student as it was not for those in the other fields we examined. But their problems were distinctive. Many were "turned off" at the prospect of working in one of the many massive state-owned enterprises. There, we were told, the pace is slow, the pay is low, and the bureaucratic impediments to creative technical achievement are formidable. Although such enterprises are happy to hire recent graduates of American universities, many returnees sought to find their niche in Brazilian-owned manufacturing or engineering consulting firms or in multinational corporations.

The technical graduate returns to his home country full of energy and well-disciplined work habits, imbued with a strong desire to maintain a competitive edge and to perfect professional skills. While some felt their experience in America had been "stressful," they came away for the most part highly appreciative of the role of market forces in the economy and of the freedom of choice in American society. In fact they often observed that these dominant characteristics pervaded the graduate programs as well. These freedoms were manifest in the students' opportunities to select advisers, to sample a wide array of course offerings, and to enjoy a far broader range of cultural programs than they had found back home.

Indeed the emphasis in American universities on independent thinking, personal initiative, and the continuing search for innovation were among the most oft-quoted characteristics of their educational experience in America.

It seems clear that because of both the relative shortness of their stay in America and the predominantly technical character of their curriculum, these students do not experience cultural assimilation comparable in intensity to that of students pursuing either a baccalaureate degree or a doctoral degree in the social sciences or humanities. Nevertheless, frustration frequently greets the returnee in several ways. They are reminded forcefully, first of all, that their society is not as open or unrestricted as is the United States and consequently it takes a while to readjust to the constraints of their home country. The computer industry in Brazil, for example, is highly protected by government regulation. As one businessman argued to us: "The Brazilian economy generally and the Brazilian computer firms in particular are like children—they need to be taken care of if they are to grow up to be healthy adults." Regardless of the merits of this perspective it strikes a discordant note to someone recently immersed in the hurly-burly of Silicon Valley or Route 128. The effect on the returnee is to dull some of the competitive edge that had been honed in the United States.

Other frustrating aspects of their return home are the natural impediments to continued work on problems encountered abroad. One specialist in solid mechanics had done extensive analysis of the stability of orbiting satellites in his graduate work in the United States, including ultimately a doctoral dissertation on the subject. (The topic was selected as a natural outgrowth of research then being conducted by his faculty adviser.) Upon coming home he was forced to the realization that there was no hope of continuing effective research in this field. Instead it was necessary to "retool" and scale down his expectations. In this particular case the individual sought to carry out advanced research in a university environment, but after three years of frustration resigned and joined a major multinational firm where he now works on petroleum problems totally unrelated to much of his graduate training or to his initial research interests.

The major MNCs naturally benefit from such situations. Because of the limited absorptive capacity of indigenous corporations, research centers, and academic institutions for high-powered talent, the MNC is able to provide a welcome alternative. The MNCs are staffed with many U.S.- and other foreign-trained scientists and engineers; they appreciate the tools and energies of the newly trained graduate from abroad; and they view such training and the degrees awarded to the graduates as evidence of the reliability, trustworthiness, and quality of the individual. As with U.S. business school graduates, American graduate education in technical fields provides a "quality control filter" which is highly respected by the MNC. As one group manager noted, "If the fellow had the initiative to study in the States in the first place, if he passed through that rigorous admissions

process at Stanford, and then took those tough courses and graduated, that's a pretty good sign he'll have a bright future with us." No wonder then that American training is indeed a path of rapid upward mobility within the multinational corporation.

It was pointed out to us that whereas an American degree was a reliable predictor of performance—a "guarantee of quality" as one MNC middle manager phrased it—the same was less true with European degrees, especially those that are especially tailored to third world students.

On several occasions we heard rather complex tales about the impact of the foreign experience on a student's social and economic philosophy. Instead of making all visiting foreign students rabid, doctrinaire free enterprisers and free traders, it is clear that the mixed American economy can also have the opposite result. Two foreign students told us that before going abroad they had held rather extreme libertarian views. These were very substantially modified by their experience with what they found to be a flexible, pragmatic, and, indeed, humane American economic system which assisted, encouraged, and protected so many particular groups in society. One even felt his American year had rendered him substantially more sympathetic to the "infant industry" protection under which his Brazilian employer now operated.

We encountered much evidence of the perpetuation of the social and professional ties between the returning student and his American educational base, as was the case with MBAs. These took many forms. Some former students were active in alumni associations and visited their alma mater as often as possible. Others served as local recruiters for flows of new student talent from Brazil to the American university. Still others in time hired their former faculty as consultants and fellow alumni as employees, and they provided research contracts to their old research units. In some instances, technical graduates had developed relationships with corporations and research institutes collocated with their university while they studied in the States. Upon returning home the graduates turned to these corporate partners for technical assistance to resolve local problems.

In broader terms, the foreign study experience exposed the Brazilian technical student to a "cosmopolitan culture" and to the "international mafia" working in his field. He met, in the course of his American study, the authors of the texts and the research pioneers in his field, and he became intimately acquainted with the relevant journals and active centers of research that he had only dimly known of before. "Gaining a knowledge of who's who and who's where in the field is at least as important as the tools and techniques you pick up in America," observed a mechanical engineer now in a senior academic post in a Brazilian university.

One returnee regretted that all students pursuing technical degrees did not have the opportunity to spend a period in industry as well as in academe. The

opportunity to acquire an industrial road map was at least as valuable as the chance to learn about the scholarly world. He believed that this part of his education had been the most productive in terms of gaining a sense of the realities of the American economy—"the cultural matrix in which technology is embedded." Like several of his colleagues this engineer saw his role in Brazilian development currently as a "technical communicator," upon whom many of his countrymen relied for a faithful representation of the global industrial environment.

As in the other levels of training, "style as much as skill" was often invoked to describe the benefits of an American technical education. It was suggested that most of those who go off to study in the United States are intrinsically hard workers, and after some time they adjust to the frantic pace of American graduate education, which is far greater than that of their home institutions. Upon return, a distinctive "decay" pattern takes effect which, over time, as in the case of other U.S.-trained students, results in a partial reversion in style as well as obsolescence of tools and skills. Ultimately, we were told, most Brazilian technical graduates return to a slower tempo after initial attempts to sustain the American pace amid the manifold frustrations of the Brazilian environment. One returnee told us that his change of pace lasted only for three years. Another less prevalent view was that of an engineer who maintained that his pace had not slowed after thirty!

One important positive aftereffect of the American educational experience was the flexible capacity it produced for research and development. One engineer who studied both in the United States and Germany put it this way: "In Germany, France, or Great Britain, if you study solid mechanics you are ill-equipped to work in fluid mechanics. The program is just terribly specialized. In the United States, however, you have much greater freedom to probe, to question. There are no restraints or inhibitions. You are exposed to problem-solving techniques which give you confidence that you could tackle problems in fluid mechanics just as well, and in a creative fashion to boot!"

It was pointed out to us on several occasions with regret that the MNCs do not support research in Brazilian universities in the way they do in the United States. The MNCs overseas seem to be governed by notions of an immediate return on investment and have research either of a local or global character performed in laboratories in the United States, which are often of higher cost than they would be locally, rather than nurturing a research community in Brazil. This struck us as potentially shortsighted since it encouraged research-oriented, foreign-trained faculty to take part-time jobs outside their institutions or to leave academia altogether. Moreover, it doomed bright students in Brazil to receive a derivative technical education bereft of faculty actively engaged in research. A few MNC research efforts had been consummated with local universities (a frequently cited example was of a major Italian tire manufacturer that carried out contract research with one large university), but they were few and far between.

The MNC and the university seemed to be operating largely divorced from each other. While it was mentioned that some faculty would be suspicious of becoming involved in corporate-sponsored research for fear of becoming "tainted or unduly influenced," it was our distinct impression that a large number of highly qualified academically based researchers would be more than happy to participate in such activities and that this would greatly enrich their performance in the classroom and consequently the quality of the training received by their students. We shall return to this point in the conclusion.

A frequently noted source of frustration observed by Brazilians who returned from technical studies in America was that the technical environment in Brazil was so inferior that their productivity inevitably slackened off and their worldwide competitiveness suffered. It was not just a matter of pace; it was also the quality of instrumentation and the absence of a critical mass of trained personnel. Within Brazilian firms and universities it was almost inevitable that individual productivity was demonstrably less than if the same individual had remained in a comparable environment in the United States. This is not to say that scientists and engineers do not work hard in Brazil or that facilities are always inferior or that a critical mass of talented personnel is never present. Indeed, we observed several exceptions to the general rule and were especially impressed by the diligence and pace of work in São Paulo. But on average, there is evidently a sufficiently noticeable difference in these attributes between the United States and Brazil, that a number of our interviewees pointed it out as a continuing source of frustration. Some technically trained graduates returned from the United States feeling "entitled to a more challenging position," wondering if they had made the right decision. "There is a great incentive to study abroad," noted one computer scientist, "but there is far less of a support system to welcome you back." Hence some return to a sense of isolation and self-doubt. "Did I do the right thing by studying in the States? If so, was it smart to return home?"

On balance, however, the dominant perspective was one of great contentment and fond memories of the American experience. Some of those interviewed even spoke in patriotic terms. "It is valuable to Brazil that I studied abroad. I know English, I know many top people in my field, I know advanced techniques of analysis. With many others like me, Brazil is bound to benefit. It is a form of technology transfer for which we are most grateful."

While various terms were used, it was noted by many that a major product of the American experience had been an "intellectual discipline" that they would always carry with them. "Training with American books, American equipment, to American standards is invaluable. It provides a breadth of perspective and a flexibility of approach that simply could not be gained elsewhere."

Among those graduates discussed in this section we include a few alumni of

public policy and international affairs masters programs. In these cases we heard about an exceptionally great problem of adjustment to the milieu, problems, approaches, literature, and even style they found in the United States. Other foreigners in the student body, we were told, helped to make adjustment a successful collective experience. Ultimately, these students appear to have become enormously enthusiastic about their experience. Although they found it amazingly demanding, they loved the openness of inquiry, exposure to a wide variety of views on all sides of an issue, the encouragement of independent thought and initiative, the vigor of discussion, and the willingness of faculty and students to express disagreement. One woman told us of entering her master's program with a strong "negative bias" toward the United States but of emerging with "an even stronger positive one," based on what she thought of as "a sophisticated understanding of U.S. pluses and minuses." She found that her two years of concentration on U.S. and global policy problems had not so much changed her own perception of her homeland as it had made her more impatient and frustrated with conditions there.

A young lawyer who had taken a master's of comparative law degree in the United States reported that the experience had proven enormously valuable to him professionally and also, he ventured, to his clients, many of whom were American companies. He stressed the importance "existentially and technically" of living in a developed country with which you would ultimately have commercial relations. He described an internship with the U.S. Securities and Exchange Commission as having priceless value. His research project was on the American legislation which prohibits U.S. corporations from engaging in bribery abroad, and this had both proven directly useful in advising clients and raised his own appreciation of American concern for ethical conduct. He himself came from a politically prominent Brazilian family and he said that he intended one day to enter politics. When he did, his two years in a prestigious American law school would remain one of his formative experiences. "You can't imagine how important it is to see and feel a free market system and democracy. You start believing in the principles only after you have learned about the problems—see the good and the bad." He thought that U.S.-Brazilian relations were tangibly improved by experiences such as his own, and that it would be tragic if foreign study did not continue to grow. Not only in commercial relations, such as the coffee trade in which he was a participant, but in intergovernmental contacts as well, a "common experience" made things go smoothly. He told us proudly how during a recent U.S. cabinet level visit to Brazil he had been able to brief former law school classmates who were members of the American mission on conditions in Brazil.

The experience of doing graduate technical work in the United States was perhaps best summed up by an electrical engineer now working for a Brazilian

company. "Sure, it was difficult academically and frustrating coming home. But if my son wants to go to graduate school in a technical field, there is only one place that I would send him: the United States. Japan may be catching up to the United States in certain areas, but English is still the principal technological language, and the United States is still the best place to reach the technological frontier."

# 5. Enrichment and Decay:

## Doctoral Training in the Sciences, Social Sciences, and Humanities

The overwhelming impression we took away from conversations with doctoral alumni of American universities was of their immense satisfaction with the experience. Many made the unsolicited comment that this had been the most significant event in their lives, determining very nearly everything that came afterward. Our task was then to ascertain upon what this satisfaction depended and to what extent it was simply an amalgam of good manners toward foreigners and memories of youth grown warm and hazy with the passage of time.

Surprisingly few respondents told us that the acquisition of new tools or new facts was the most important result of their postgraduate experience. In fact, they said, the textbooks and materials they used in America were often familiar to them from previous graduate or advanced undergraduate work in Brazil. Rather, they said, the most valuable benefits grew out of immersion in the distinctive community of graduate study and research in a major American university, as one scientist put it "a challenging atmosphere, stimulating colleagues, and excellent support facilities." Many had never been required to verbalize these reflections before, and in several cases they were quite moved to have to do so.

Understandably, most agreed that beyond the mastery of a useful academic discipline, which was of course the primary objective, the major results of American graduate education were, first, fluency in English, the nearest thing to a universal language of scholarship; second, a cosmopolitan or international sense of how the rest of the world worked; and third, the prestige of a degree from a

major American institution which opened doors back home regardless of other considerations. We heard often the words "status," "exposure," "self-confidence." But many comments related also to the style of graduate education in America which, they said, they learned to emulate easily and to adopt permanently. They described this style variously as extremely hard-working and competitive, independent, committed, nonideological, fresh, critical, open and tolerant, systematic, professional, and predictable. Repeatedly we were told of the shock of being immersed after coming to America, overnight as it were, in a whirl of classes, seminars, libraries, laboratories, and examinations. One man told of coming from the relatively relaxed life of Rio to a fourteen-hour day, seven days a week, in one of America's most demanding engineering schools. He even felt guilty when he went to the supermarket, he said, because his books were left behind. It seems unlikely that these people always felt as warmly about the change in style which they endured while it was in progress as they did in retrospect. But they now speak of it with the greatest affection and admiration. One engineer called the name of his alma mater "charmed" and "magical." Several even spoke of severe "culture shock" on their return, and of a "decompression problem." They report, nevertheless, that the metamorphosis has remained permanent and is a source of pride. They attribute their success to this new style more than to any other single factor. One manifestation of this change of style among American-trained faculty in the academic world, we were told, was a proclivity for full-time appointments and distaste for the part-time scholarly life familiar to many Brazilians.

In contrast to European postgraduate education, which many of the Brazilians knew either directly or from its importation to Latin America, our respondents found the American graduate school a peculiarly liberating experience. As one told us: "We were never dependent upon any one professor. Our grades and other accomplishments were open for all to see. We had a choice among thesis advisers and committee members. We were masters of our own destiny. We were taught that to succeed you had to deliver. The candor, informality and friendliness of American faculty were emphasized to us many times." An engineer described his graduate-school condition using unwittingly the phrase made famous by Milton Friedman, as "free to choose." He said the dominant posture was toward novelty; he felt constantly challenged to go out and find "new solutions" to whatever problem was prescribed. He had been accustomed before (including a period of graduate study in Germany) to believe that all the solutions he could possibly think of implementing were carefully codified somewhere and his task as a student was simply to learn where to find them. He said he never ceased to marvel at world-famous figures in American classrooms throwing out ideas "off the wall;" but on reflection he concluded this was the best route to creativity. The liveliness and free give-and-take of American seminars had a major impact on him. One senior academician said to us, "That was where I learned that when I became a

professor I could say to a student 'I don't know', and that in relations among colleagues a professional criticism need not constitute a personal attack." "In those seminars I discovered that I could play in the big leagues," another academician reported. "I was able to hold my own in freewheeling arguments with world-renowned people." Another said that without the experience of American graduate seminars she would probably never have felt fully comfortable in professional exchanges in English and as a contributor to the global literature.

The Brazilian graduates said they found their years in America a liberalizing as well as a liberating experience. As one woman told us, the social science theory and tools she learned in Brazil were all based on assumptions of the free market, political freedom, and a free society. Yet she had really never been taught to "think politically." In order to understand this doctrine you had to "live and feel democracy," to understand the respect for the individual. You had to have the daily "human experience" of people interacting in freedom and sense what this meant. She told us that in her case she did not fully comprehend American society until the third year. Then, while conducting research for a dissertation using survey research in American households, she felt all her preconceptions collapsing. In the end she found herself more cautious in her opinions and more "tolerant."

We were told that the intimacy which comes from an extended American graduate education also has its practical uses. One graduate who had ended up working for the Brazilian affiliate of an American bank explained how his intimate knowledge of American society was critical to the training programs he administered. Another, who was head of economic research at a Brazilian bank, reported that a sophisticated knowledge of American banks, and of the constraints upon them, was as important a professional tool as any of the techniques of economic analysis she acquired in the United States. We heard a similar report from an investment banker. A Ph.D. in engineering who had deserted academe for a construction firm said his training in American standards and components made him dependent on American products still.

The breadth of American graduate education was cited as a special advantage to a young scholar from a country where career paths were as uncertain as in Brazil. It was not so much that the extensive course work gave several strings to the scholar's bow, which it did, as it was the mindset of confident flexibility which prepared the scholar to move into new areas. We heard a great deal of anecdotal evidence about how Brazilians with American doctorates had been able to respond more flexibly than their more narrowly based European-trained counterparts to changing circumstances in universities, government, private business, and research establishments.

The qualities of enforced breadth and methodological rigor in American graduate training were perceived to have special significance in the social sciences.

We were told how many a Brazilian student had arrived at a U.S. graduate school with a strong ideological commitment to a particular interpretation of data or to a specific policy position. In the process of being forced to think through a large variety of questions logically, to conduct quantitative analysis, and to identify a wide range of policy options for most problems, their ideological preconceptions very often were softened and they moved toward the nondoctrinaire center of the ideological spectrum. As one observer said, after you have learned to think in terms of "on one side this and the other side that" you are much less likely to take extreme positions. Another said that an American training in the social sciences tended to "dispel fantasy and unreality." One observer who had just returned from a visit to Central America compared the pragmatic and sophisticated American-trained social scientists from South America who went with him to the polarized and intolerant Central Americans with whom they interacted. This "push toward the center" was seemingly felt by many social scientists who acquired their doctorate in the United States.

Several people spoke of American graduate education as a "collective experience" which brought and held together those who had passed through it—almost like a fraternity initiation! For the social scientists, one manifestation of this communal spirit was their collective participation in the public policy process, and public debate, in a fashion which was broadly patterned after the careers of their mentors in America. This participation included movement into and out of government, the media, universities, and public policy research institutions. And typically the contributors were characterized, in the words of one able observer, by "balance, measure, caution and moderation, in contrast to the shrill and simplistic debate which can be heard throughout much of Latin America." It was suggested to us that American-trained social scientists had become the "intellectual backbone" of public policy in Brazil performing a modulating and negotiating role among a wide range of extreme positions. Certainly during our visit, which was a time of deep national introspection and worry about the future, many of the alumni of American graduate schools were seriously and openly engaged in public discussion—rushing off after an interview with us to an appearance on television or to prepare a newspaper commentary or a magazine article. They were also advising government or preparing position papers for the opposition. What these persons tended to share together, one observer suggested to us, was "an awareness of the inevitability of complexity and faith in the process of compromise, negotiation, flexibility, and equilibration." It was suggested that perhaps because of the logical-positivist commitment of American social science, its practitioners were seldom mesmerized by any one system's model and indeed skeptical of anyone who displayed such theoretical commitment. A shrewd observer of the political scene who did not himself have an American background ventured to us that "the American-trained Brazilians, with their academic rigor and seri-

ousness of purpose, have great influence already and are destined to have much more."

One interviewee cautioned that what seemed like a safe generalization about the "centrist" influence of American social science might in fact be explained differently by the coincidence of the rapid growth of the social sciences in Brazil in the 1960s with disillusionment over political extremes following displacement of the left-leaning and populist Goulart government in 1964 by the right-wing military.

Both those who had themselves studied in the United States and those who had not, suggested to us that the American-trained social scientist was especially valuable in a nation like Brazil, which was currently groping for some sort of path out of authoritarian rule. Social scientists in this mold with a relatively uncommitted stance were able to criticize and suggest alternative policies under the guise of academic discussion, if need be, without taking on a threatening political tenor. These academicians could also become a valuable "transmission belt" for new policy options under discussion outside the country. One thoughtful American-trained economist who was especially active in public debate suggested that it was necessary to steer a careful course between roles of "preacher" for a particular faith and "prostitute" for some special interest. He felt he had learned to do this by observing his teachers in graduate school who did not eschew the commitment to certain values or a willingness to express a point of view. But they tended to approach problems with adherence to certain rules of reason, "consciousness of reality," a search for quantitative evidence, and an open mind. This was his own personal strategy. Another observer of the contemporary scene reflected that the practice of a social scientist providing an "objective briefing" to a decision-maker was distinctly American and a valuable import to Brazil.

Another distinctive function of the American-trained social scientists, we were told by several of them, was to correct stereotypes of the United States and its policies. They did not do this out of any particular sense of responsibility to the country which had made possible their education, but simply in response to error. They explained that while we were in Brazil there was a natural tendency to blame the balance of payments crisis rather simplistically on a greedy American banking system. The policy implications of this position were to declare default. The social scientists said that their training led them to look for more complex explanations of events in the structure of international finance and in the behavior of their own military regime. Moreover any Brazilian actions had to be based on a calm appraisal of the options open to the nation and an appreciation of the full consequences to be expected from implementation of each option.

The problem related to training in American graduate schools which was on people's minds more than any other during our conversations concerned the danger of intellectual and scientific deterioration. This was perceived to threaten

all disciplines, and entire scientific communities as well as individual scholars. Some manifestations of the problem were peculiar to individual fields while others seemed to apply throughout. In some cases promising scholars drifted away from careers in teaching or research for which they had been trained. In other cases they remained in these careers but lost productivity and effectiveness. In still other cases scholars retained their careers and their energy but lost their capacity to compete internationally; they drifted backward from the cutting edge they had reached in graduate school (or the edge moved forward and left them behind) into provincial intellectual backwaters. We came to refer to this phenomenon as the "scholarly decay curve," a notion which the Brazilians found amply descriptive of a phenomenon they knew well.

The problem of scholarly decay was described as especially severe because of the rapid growth in highly trained staff during the period from the late 1950s to 1970s. Many fields found that they had large numbers of staff who were growing old together and had peculiar needs for a supportive community to maintain their strength. In some places the problem was compounded because a substantial part of this wave of academics had been drawn into administrative activities, away from their disciplinary responsibilities. It was to this need for support services which so many persons turned in our conversations.

Virtually everyone denied the familiar charge that American graduate schools sent back their products to developing countries unable or unwilling to apply their newfound skills locally. Quite the contrary, we were told; the vast majority of new graduates were enthusiastically committed to working on problems important to their homeland, and their education usually equipped them well to modify sophisticated analytical techniques to local opportunities. A number of people complimented American universities for insisting that the education of students from developing countries be no less rigorous than that of their own (unlike in some European systems). What the graduates lacked were certain ingredients: first, in some cases, even the essential items of equipment needed to conduct their research were missing, and second, and more important in science and engineering, the graduates found frustratingly few opportunities to engage in research which was both professionally enriching and useful to the nation. Too often, they said, they were faced with a wrenching choice between esoterica encouraged by their universities, or superficial, highly applied tasks prescribed by a government ministry or public corporation. One scientist complained bitterly that the government was foolishly giving attention to the "rear end" of economic development in the form of tariffs, subsidies, and other import substitution devices when it should be attending to research and development of the "front end" which would make the country truly competitive on the world stage. Unable over an extended period to engage in the sophisticated applied research of the kind which they were convinced both they and the country needed,

many scholars tended to drift off into other occupations which at least paid well: employment by an MNC, consulting firm, or government bureaucracy. To the extent that their training was directed toward academic careers and research, the investment in human capital was substantially lost through the failure to use their services effectively.

We could not pretend in our brief visit to judge the wisdom of suggestions we heard for means to retard or prevent the scholarly decay which threatened the fruits of training abroad. But actions at three levels were suggested, all of which made good sense to us. First, essential "equipment" had to be provided to Ph.D. graduates to sustain their scholarly careers; otherwise it was just as well not to train them. For the sciences and engineering this meant mainly laboratory instrumentation; for the social sciences and humanities it meant mainly books, journals, and computer time. Some involvement in local graduate programs, with competent graduate student assistants, was also important. One significant means to arrest intellectual decay, it was pointed out to us repeatedly, was to assure a steady and continuing inflow of young products of American graduate schools. This "new blood" would not only introduce fresh ideas but would sustain the larger tradition of "American-style scholarship." One discouraged social scientist warned us that if the youth of the country shifted their graduate training largely to other countries or to domestic institutions, the American-trained pioneers, only two decades deep, were likely to feel the debilitating effects of external attack as much as internal decay.

A second major need, in order to avert decay, was the means to become engaged in appropriate forms of research. We heard almost universal agreement that in a country with Brazil's needs these should be quite largely "applied," using a liberal definition of this term. The principal desideratum was that the particular area of research be relevant to domestic problems, not that the direct link be demonstrated between each project and a practical end. In fact, we were told by both natural and social scientists that nothing was more stultifying nor more destructive to their scholarly careers than a research environment which required them to attend only to the most precise and immediate of practical problems. A special source of frustration, and indeed of alienation, existed for social scientists in authoritarian regimes. Not only did they feel revulsion at the circumstances in which they lived but often they were restrained from taking a critical posture. Such restraint was not evident in Brazil during our visit but we could see how it might be a potent element of the decay.

The third means to retard decay which we found present in some circumstances and absent in others was continued contact with the international world of scholarship. A number of scholars with whom we spoke felt themselves tied effectively into the network which they had come to know in graduate school. They attended international conferences and seminars, spent leaves back at their

alma mater or elsewhere overseas, were stimulated by a steady stream of colleagues returning from abroad, and depended on their former mentors and graduate school contacts to keep them abreast of progress in their discipline. But others felt themselves to be losing touch rapidly and to sense in a very personal way that their hard-earned investment was depreciating rapidly as they watched in the mirror.

We returned with the firm conviction that scholarly decay was one of the most serious problems in advanced international educational exchange and that it should receive more attention from all parties and all nations involved. One person observed to us that intellectual decay among Brazilians was not more serious than among the personnel of many of America's own less-privileged institutions. Even if this is true, we found it no less worrisome.

We should not give the impression that we heard no complaints about American graduate education. What was an entirely agreeable change of pace to most was to some too much of a good thing. Several alumni of departments which are known for ruthless annual elimination of the bottom decile of students found the competitive pressures destructive, demoralizing, and highly unpleasant. One complained of classmates giving false information to improve their own class rank. She said she thought graduate school should teach morality as well as skills, how to "climb on the table without pushing someone else in the hole."

Another criticism we heard was of the disproportionate influence particular American universities, and even particular American scholars, had had upon Brazil. Frequently, it was recognized that this situation resulted from the best of institutional motives and the devoted self-sacrifice of individuals; but the effect for Brazil, it was argued, was an artificial homogeneity among the scholarly community and an almost whimsical skewing which reflected the nearly random involvement of some Americans rather than others. Several individuals expressed the preference that the graduates of U.S. universities in Brazil should represent the full panoply of American institutional strength.

We heard occasionally well-modulated complaints about the narrowness and intolerance of some American departments, schools, and even entire disciplines. One social scientist, with earlier graduate training in Europe, said he found the emphasis on quantification admirable and an excellent corrective to his own background. But he thought the level of theorizing was trivial, and at times approaching the ludicrous. He told us with roars of laughter how in a seminar in international relations at a prominent American university, with the world system seemingly crumbling around them, the subject of discussion was whether a diplomatic cocktail party did or did not represent a "transnational process." It seemed to us that in making such observations a foreign student was playing a very valuable critical role.

Finally, we heard from one American graduate the complaint that the American

model of graduate education was so captivating that it had led Brazilian academic leaders to copy it in a manner and to a degree which could not be sustained over time. He looked forward to a time when Brazilians took a more balanced or skeptical position on the subject. Related to this general criticism was a complaint that Brazilians picked up too easily on American academic fads and fashions. For example, one said, "Following the American lead, we now have far too many economists in relation to the number of public administrators."

# 6. Filling in the Gaps:

## Other Forms of Higher Education

The subject of our discussions in Brazil was clearly spelled out in our interviews as the impact on Brazilians of an American higher education at the bachelor's, master's, and doctoral degree levels. However, our conversations turned often to other levels of training offered to foreigners in the United States, and we record here some of the principal observations made to us on this subject.

*High School Exchanges*

We encountered strikingly divergent views on the value of precollegiate Brazilian youth spending periods of a year or less in an American home and attending an American school. On the negative side some former exchangees and observers of the process complained of impressionable children leaving a relatively structured and disciplined home and school environment in Brazil with relatively few consumer durables and childhood luxuries and then moving to a comparatively extravagant and luxurious American home and school in which the visitor is coddled, indulged, and in all respects urged to pick freely from the cornucopia spread before him. The adjustment problems for this child on the return home were severe. The alienation and disorientation experienced by some undergraduates upon their return were said to be trivial compared to the "withdrawal symptoms" of the high school youth. One prominent Brazilian journalist told us with some evident bitterness that he took years to recover fully from the intoxication of his own high school exchange experience. He believed he had been

subtly but unintentionally "brainwashed" and that no student should be sent abroad while still uncritical, immature, and "a passive learner."

Other observers, however, contradicted or qualified this negative judgment. Several alumni of graduate programs in American universities said that their appetite for America was first whetted by a high school exchange. It had provided them in particular with sufficient linguistic fluency and self-confidence to sustain cultural contacts and to return for more advanced education later. The general conclusion we took away from these conversations was that high school exchanges, like undergraduate ones, are powerful medicine and should be used cautiously, sparingly, and only with carefully selected people in carefully selected places.

*Special Programs*

We have already reported the universally complimentary remarks we heard about a variety of corporate training programs of many kinds which brought Brazilians to the United States for a combination of higher education and on-the-job training. These are conducted by multinationals for their own employees, by other corporations for potential clients or employees, and by cooperating sponsors, such as banks with corresponding relationships in Brazil. We suspect the foreign policy and developmental value of these programs has not been carefully examined or fully appreciated in the United States.

A proposal for an interesting variant of these programs which we heard several times was for more systematic training of the Latin American military in civilian locations in the United States either in colleges and universities or in special training programs set up for that purpose. As one person put it to us, "The military are going to be involved in government for some years to come, so why not try to broaden and humanize them in the way you have other students?" Another asked, "Why not give them education instead of guns? A change in military attitude will do far more for us than a marginal improvement in military capability."

Two changing circumstances with which many of our contacts were attempting to come to grips at the time of our visits were, first, rapid development of Brazil's own higher education system, and second, the regrettable but undoubted decline of foreign funds available for study abroad, from all sources, domestic and overseas. The first of these circumstances raised the question of whether it was necessary any longer for a significant number of Brazilian students to pursue their degrees abroad. With a full panoply of professional and graduate schools, could Brazil not consider itself educationally self-sufficient? Opinions differed on this point. But even most of those who concluded in the affirmative felt the need for some measure of continued disciplined foreign exposure for students and faculty. They ended up favoring experiments with brief periods abroad—normally one year—for selected students at all levels of university education. We

heard about one experiment presently underway in economics graduate training where students were sent to prominent American graduate schools for one year of seminars and overall "touching up" while they were writing their doctoral theses.

Those who objected to restraints on the free flow of students abroad feared that Brazilian higher education could easily succumb to the temptation to ape the Brazilian economy more generally, and to insist on import substitution through infant industry protection. The result, they said, would be inferior education and disastrous consequences for the nation. One person remarked, "Brazil has tried to accomplish a time warp, and it can't be done. To excel, our universities must be tied closely to universities overseas for many years to come."

*Postdoctoral Studies*

Perhaps more than any other level of education, we identified postdoctoral studies abroad as most needed by Brazil today. This is partly because of the remarkable growth and maturation of the system of higher education which has been accompanied by a sharp increase in the number of young, well-trained, research-oriented faculty. But it is also because of the seeming absence in Brazil as in most developing countries of an effective support system for the maintenance of scholarly skills.

Substantial sums have been expended in Brazil by the government and foreign donors to produce an impressive stock of human capital educated in both domestic and overseas training facilities. It seems foolish in the extreme not to make the necessary continuing investment over time to keep this human capital up-to-date and productive. Not to do so would be the equivalent of buying an expensive automobile and allowing it to collapse from lack of regular maintenance and lubrication. The kinds of activities which refresh and renew a scholar include occasional periods of free time for reflective study and research, access to excellent libraries and laboratories, and interaction with colleagues who are at the forefront of their discipline.

Most important for the maintenance of the intellectual capital of Brazil is, of course, an adequate level of support for the teaching and research in which scholars are engaged. Little can be accomplished if this essential base is not preserved. On the assumption that such funding is provided, however, what may be done specifically to assist the established scholar to maintain his effectiveness? We observed that some valuable postdoctoral support services were in fact present in Brazil. A certain amount of foreign travel is assisted and distinguished visitors are invited from abroad. But we sensed an urgent need for more. An obvious extension of the training provided Brazilians by America up to this [illegible] bachelor's, master's, and doctoral levels, would be assisted postdoctoral refresher courses in the research institutes and graduate schools of the United States. We

discovered that a certain amount of this was happening already. But much of it was informal and without the careful planning that success demands. A common practice, which may be of questionable wisdom, is for Brazilian scholars with American degrees to return for occasional leaves to their alma maters in the United States. Apart from the disappointment which sometimes results, because of the lack of accommodation to the needs of postdoctoral scholars, this experience is more likely to become an exercise in nostalgia than to provide the breadth and new directions the young scholar requires. Just as it is usually unwise for a student to return to his undergraduate college for graduate study, so we suspect it is a mistake in most cases for a young Ph.D. graduate to return to his graduate school for postdoctoral study.

We met a few Brazilian scholars who had returned to America to take part in programs specially designed for midcareer scholars and professionals, emphasizing seminars and routinized contact with distinguished leaders in their fields. These programs were extraordinarily well received and seemed to open up vast opportunities for their extension in the future.

Several of the participants in these midcareer activities had had no prior American experience and their accounts were especially illuminating. As with so many other aspects of Brazilian educational experience in the United States the result in this case was to move them from extremes to the ideological and methodological middleground. One social scientist contrasted his brief American sojourn with his earlier and extensive graduate study in Europe. There, he reflected, scholarly endeavor seemed almost indistinguishable from political commitment, and he had spent at least as much time in heated argument in the coffee houses as in seminars or at the library. He found it like moving to a different intellectual planet to be set down in a "neo-positivist fortress where the approach was to take snapshots of 'what is' rather than to explore trends or speculate about 'what may be.' " He left, he said, with a new respect for American rigor and skill in handling quantified data but also deeply critical of their "imbalance and seeming unawareness of social tensions and forces in collision and conflict." He worried that American scholars were inadequately self-critical and far too self-confident. Nevertheless, he came away with many stereotypes (that rich societies had few social problems; that "exploitation" and "imperialism" were simple concepts; and that revolution was an effective path to reform) destroyed. He claimed to have lost his "Jacobinism". He came to appreciate the "virtues of an open society," the effectiveness of "the invisible government of democracy," and above all, "a society that works." (Ironically, he said the practical effectiveness of the American economy was brought home to him most forcefully by the quality of medical care when he became ill.) This scholar, now a leading figure in Brazilian life, described himself as "humanized" by his relatively brief experience in America. We suspect the same might be said for the Americans with whom he came into contact. He

speculated that without encounters of this kind, Brazil would become "an intellectual island," not understanding its own specific problems because it did not understand the larger issues.

Beyond formalized postdoctoral programs and individual attachments worked out on an *ad hoc* basis, it is vital that Brazilian scholars participate in activities which bring them into regular contact with the international luminaries in their various disciplines. In some cases this involvement in the international scholarly network seems to be firm and well-sustained. We met leaders of some fields in Brazil from engineering to political science who were fully plugged in, aware of activity on the scholarly frontier, and engaged in various forms of inquiry with partners around the world. These academic entrepreneurs acted as stimuli and transmission belts for new ideas throughout the country. In other disciplines, however, we heard tales of the majority of active scholars in a discipline languishing in isolation while a few of their numbers acted as "jet set camp followers," the token Brazilians at every conference but not themselves leading or directing others in the local academic communities.

Clearly, at the time of our visit many thoughtful Brazilians were seized with the question of how to sustain the professional competence and intellectual distinction which had been acquired in many fields only within recent years and at great psychic and economic cost. The challenge was increased by the worldwide recession and a domestic economic and political crisis. It seemed to us, as it did to them, that part of the answer to their problem lay in the development of cooperative relationships abroad. From the American perspective, service to foreign students should not be thought of as terminating with the Ph.D. degree. Lifelong learning is an academic phenomenon overseas just as much as at home, and American higher education policies must take this requirement explicitly into account.

# 7. Conclusions and Recommendations

This section summarizes our overall impressions from the Brazilian interviews and offers a set of recommendations which flow from them. The intention of the remarks that follow is to move beyond a synthesis of what we learned to the presentation of concrete actions which various interested parties should consider undertaking.

*Summary Observations*

The most powerful impression from our field work was the significant impact of American higher education upon Brazilian society. Clearly, as scholars, we were disposed to anticipate a positive effect; and by concentrating on this one topic over days of interviews we might be expected to lose a sense of objectivity. Nevertheless, after discounting for these factors, we remain deeply impressed by the overwhelmingly positive effects of foreign study.

The gainers from the American training include virtually all who participate. These gains are worthy of systematic categorization. Obviously the students themselves enhance their capabilities directly through the acquisition of new skills and knowledge, which in turn bring about more rapid career advancement. To the extent that these skills in the aggregate are important to the functioning of the Brazilian economy, the training is valuable to their nation as well. But equally or more important than the direct benefits of the education are the intangibles: a change in style and work habits; a new method of reasoning; a different set of

values; a more sophisticated and more objective outlook on the world. In a developing country where the leadership cadre is small, even in a state as vast as Brazil, influencing only a few hundred members of the elite may lead to large changes overall. It was our sense that this was indeed the case with those individuals trained in American colleges and universities.

The meaning of this training for the United States also has several dimensions. Of great importance is the fact that through international education many of the leaders of the largest nation in the hemisphere have come not only to know well but also to have great affection for the country in which they received their higher degrees. It is fortuitous that through a variety of selection schemes many of the most talented Brazilians have come to America for higher education. It should come as no surprise, therefore, that these exceptional persons have subsequently moved into leadership positions throughout their society. The net effect is that America benefits in subtle ways from the familiarity, sympathy, and understanding of U.S. policies and institutions which Brazil's leaders have come to acquire. These benefits, reflected in Brazilian foreign policy, are difficult to quantify, but they surely exceed the few millions of dollars expended since World War II for the higher education of these students. Perhaps the most gratifying feature of this high regard for America is that it is the result not of propaganda or illusion. It is exactly as Americans would wish it, the consequence of living among us. The shrewd observers left America well aware of its problems, mistakes, and contradictions, but remain enthusiastic advocates all the same of its free society, economic vitality, open and vigorous public debate, and demonstrated generosity. These Brazilians cannot and should not, of course, be expected to line up with America on all foreign policy issues in the years after graduation. After all, one of the major skills taught them was to maintain a skeptical and analytical posture toward complex problems. The most lasting and significant consequence may therefore be simply that a sophisticated, reasonable, and astute set of leaders have been placed on the world scene. But by virtue of their American training there is a high likelihood that these Brazilian leaders will be far more positively than negatively predisposed toward the United States.

To the extent that the provision of assistance to the less-developed nations of the world is an objective of U.S. foreign policy, it seemed to us that the education of students was making a very large, though difficult to measure, contribution. It was not only the technical training of engineers and applied scientists which impressed us as a substantial achievement. Rather, it was the full range of educational programs in many fields and disciplines which has contributed to the process of constructive social, political, and economic change. Above all, exposure to U.S. higher education has given Brazilians choices and information with which to make their own basic decisions. Alumni of U.S. colleges and universities

returned to their homeland not starry-eyed fanatics, or zealots for particular social or economic models. They were not card-carrying members of an "American" or "capitalist" or even "Western" party. By and large they seemed to us instead astute observers of the society in which they had lived and worked, and were able to present the virtues and vices of what they saw to their countrymen. They made their choices maturely, after reflection, and with the benefit of comparative perspective. Few Americans had given them a hard sell, and in consequence the final sale was all the more impressive. It is an article of faith in much of the West that a free and open society, despite its many blemishes and problems, is its own best advertisement. The way to appreciate it is to "live" it, and if possible to live the alternative. Through the medium of study abroad the Brazilians we met had had this experience. Their choice was not unexpected, but it was no less gratifying.

Even though the results of the training of Brazilian students in America were overwhelmingly positive, they did reveal potential and actual problems which should be clearly recognized. The experiences of the foreign students with whom we met illustrate the multiplicity of problems they may encounter. At the very start, careful selection and placement are crucial for a positive experience. As we have described above, grave doubts were expressed to us about the wisdom of sending abroad young and immature students to a culture and style of life which they could not evaluate and digest with balance and discretion. The result of this experience may be lifelong alienation and frustration with potentially destructive long-run consequences.

Second, there is the serious danger of a mismatch between student and school. American higher education projects a bewildering array of colleges, universities, and institutes, public and private, rural and urban, competitive and casual. Students seldom appreciate before they enroll that the crucial choice among these alternatives determines the satisfactions to be gained from their experience and the extent of the benefits derived subsequently by their own society and by their American hosts. Closer consultation between prospective students and Brazilian-based advisory groups familiar with American educational institutions would help ameliorate this problem.

Third, the care bestowed upon the training of foreign students within American institutions determines in large degree the quality of the result. We heard from virtually no one an appeal for the coddling of foreign students or for the provision of "easier," less demanding degree programs. To the contrary the rigor and discipline of American higher education were among their most attractive features. But strong criticisms of the content and coverage of some curricula were offered, with suggestions for reform designed to benefit American as much as foreign students. We even sensed a growing case for experiments with more programs aimed primarily at foreign students which were separate in part but truly equal

in rigor. The master of comparative law degree, when responsibly administered, seemed a model of this kind.

Finally, for foreign students as much as for U.S. students, the life of the mind does not terminate with the last university degree. If not a responsibility, then an opportunity exists for the United States to join with nations which have sent their youth to this country for postgraduate training to prevent the intellectual deterioration of this precious human capital. This may be accomplished through attachments of various kinds to colleges and universities and through special programs yet to be designed.

As the title and content of this report suggest we find the subject of foreign-student training fraught with contradictions and complexity. While on the one hand Brazilian undergraduates trained in the United States develop skills and a richness of perspective which are extremely valuable to them personally, they experience at the same time a powerful and potentially destructive form of alienation on their return home. Similarly, students who pursue master's level training in business or technical fields acquire both new professional competence and an exciting revolution in style. Yet they also experience deep pangs of frustration when confronted with the challenge of applying their new academic acquisitions to work in their homeland. Doctoral graduates in turn reach the highest levels of scholarly accomplishment in the best American graduate schools, yet find enormous barriers when back in Brazil both in making the best use of these accomplishments and in retaining their place on the scholarly frontier.

Perhaps the most significant paradox we encountered was that just at the moment Brazilians and leaders in other countries have come jointly to recognize and accept the enormous success and value to all parties of the training of Brazilian students in the United States, American leaders seem to have developed doubts and lost conviction about the value of such experiences. We heard numerous accounts of how the Germans, French, Japanese and others were implementing substantial training programs just at the time when American programs were in decline. While other nations were now convinced by the American experience that not only trade and investment but also the meeting of larger foreign policy objectives flowed from international education, America seemed to have lost its interest, confidence, and commitment. Many Brazilians perceived the irony that the major consequence of American success in the effective training of foreign students may well be the displacement of America as the premier trainer of these students by other nations.

*Recommendations*

From these observations certain recommendations follow which may be organized according to various segments of American society.

*The U.S. Federal Government*

It is demonstrably in the American public interest to train in the United States foreign students of the kind we interviewed in Brazil. This public interest may pertain to any country offering higher education to the future leaders of another, but it is particularly relevant for America for two reasons: first, because of this country's inescapable global responsibility as the leader of the West and the great value to American foreign policy of friendship and understanding among the elites of other nations; and second, because the education can be delivered so well in our colleges and universities. If the Brazilians we met are at all representative of foreign students who have spent time in America, and we suspect most of them are, then students benefit enormously from their experience and leave dominated by feelings of praise and gratitude. This realization should be of prime foreign policy interest to the United States. Federal policy should reflect the depth of this interest and promote the result. The federal government should encourage the training of foreign students in the United States through direct support under the Fulbright Program, AID projects, and other devices. It should also assist this training indirectly through grants and contracts to those educational institutions which do the training abundantly and well. At this point in the development of higher education around the world, especially attractive opportunities exist for joint research projects between American and foreign nationals. Such cooperative research could offer the triple advantage of stimulating the American research community through an infusion of new ideas, assisting developing countries at a point where aid is particularly valuable, and helping to arrest the decay of the global scientific community described above. Finally, the federal government should declare publicly its strong support for the training of foreign students and make certain that encouragement is indeed provided through all appropriate parts of government, at home and abroad, including the Department of State and the Immigration and Naturalization Service. We do not detect any actual discouragement by these agencies at the moment. But there does at times seem to be a certain ambivalence about the value to the nation of the training of foreign students, an ambivalence which cannot be sustained by the historical record.

We sense a need in the United States for the public, who are the ultimate "policy influentials," to understand fully the value to the nation of international education. The training of foreign students does in fact stimulate bilateral trade, investment, economic cooperation, and economic and political development of the less-developed world. Not only does the case for public support and intervention exist. In addition, a more extensive and widely publicized inquiry, leading to the enunciation of national goals and national policy, is in order. This could take the form of a Congressional study followed by legislation, a presidential

commission, or some other investigative device. The purposes of such an inquiry would be to elevate the foreign-student issue to a level where it would command national attention and to stimulate a wide-ranging debate which would have the salutory effect of crowding out parochial interests. There is a pronounced danger that if the American people do not come to appreciate their overall self-interest in the education of carefully selected foreign students, they may neglect this function to their own loss and that of the students.

*State and Local Governments*

There has been a good deal of uneasiness in recent years among state and local governments, especially in legislative branches, about the training of foreign students. This uneasiness has been most pronounced in connection with training in heavily subsidized public institutions. We urge these governments to examine carefully the full significance for their state or region of the training which in fact takes place. We would hope that these governments would weigh carefully the national and international benefits which accrue from international economic development and the training of many of the world's leaders in our system of open but disciplined higher education. But even if these governments do not give such weight, they should reflect more carefully than they have on the positive relationship which exists between training, and trade and investment, as it affects them directly. We have noted above what forms this relationship can take, from simple habits and preferences for the purchase of goods and services, to joint enterprise among firms at home and abroad. Inevitably it will be difficult to produce with high confidence persuasively quantified measures of the value of foreign-student training for any city, state or region, let alone the nation; but such estimates should be calculated from the evidence available. For these measures, no matter how tentative, are far preferable as a basis for policy-making than ignorance, which can cultivate a parochial and excessively nationalistic public attitude.

Consequently, we urge state governments, at the executive and legislative levels, to take the leadership in preparing estimates of the value to their constituencies of the training of foreign students in the institutions of their states.

*National and International Organizations and Institutions*

The effective delivery of higher education to Brazilian and other foreign students in the United States has not been carried out by the educational institutions and governments entirely on their own. A variety of facilitative and coordinating organizations have played crucial roles. These organizations have conceived and directed exchange programs, assisted in the provision of information and counseling to prospective students and host institutions, administered cooperative examinations, conducted recruitment and orientation programs, and proposed national policy of various kinds for international education. Often they have been able to see the whole elephant rather than merely the single leg or trunk seen

by individual participants in the process. In the years ahead, the challenges of both justifying foreign student programs to the U.S. population and of conceiving new programs and approaches will likely become even more acute. The facilitative role of such organizations will therefore rise in value. Continued public and private support for this essential foreign student infrastructure—the ACE, NAFSA, IIE, NCFLIS, and other organizations—must be maintained for the overall system of international education to function effectively.

*American Colleges and Universities*

Those institutions which have been so successful since World War II in providing foreign students with the higher education they want and require need to become more analytical and self-critical. In particular, as part of the self-study we have recommended elsewhere (see *Absence of Decision*) as a basis of institutional policy, we recommend that these institutions gain a richer sense from their own alumni of what they have accomplished to date and what needs lie ahead. From our relatively limited experience we sense that the traditionally strong relationships of U.S. colleges to their alumni have not yet been developed satisfactorily abroad. This proposed search for advice and counsel would be an appropriate occasion to develop these relationships to their full potential.

U.S. institutions of higher education have reached the point in their service to non-U.S. students where they should consider seriously the establishment of additional programs which have the needs of foreigners uppermost in mind. Such programs might include specialized degrees for professionals who wish to spend only a year or two working with their U.S. counterparts; one-year non-degree arrangements for students in foreign graduate programs; and postdoctoral attachments for young foreign scholars who need intellectual refreshment and retraining. Each institution must make its own decisions about the extent of its commitment to foreign students, but it should do so openly and with all the opportunities spread before it.

*The American Multinational Corporation (MNC)*

We noted earlier that within our own society the principal devices for diffusing technologies are the research and educational communities centered around the great public and private universities. The American corporation has, over the years, developed a multiplicity of complex relationships at many levels with these institutions which are still in process of evolution. From the San Francisco Bay area to Route 128 near Boston, from greater Minneapolis to the Research Triangle area of North Carolina, from Evanston, Illinois, to Austin, Texas, faculty and graduate students are involved in corporate-supported research and training programs that are carefully constructed to incorporate safeguards for the welfare of all parties so that all may gain. The benefits are impressive. Corporations are able to enlist high-powered independent faculty talent for their own needs, and the graduate students are a useful applicant pool as new personnel requirements

are identified. Corporate images are generally enhanced and long-standing relationships are established which provide a continuous infusion of fresh ideas into the corporate environment. On the academic side, faculty members gain tangible support and access to real-world problems which enrich their research agenda and ultimately their teaching activities. Students gain from the more sophisticated levels of instruction, from the intellectual stimulation of tackling concrete problems, and from the prospect of developing postgraduate employment opportunities in industry as well as in academe. It is no accident therefore that many of the United States' great universities and technologically most advanced corporations are colocated and closely interrelated.

For reasons that are not entirely clear, however, MNCs in most cases have been reluctant to enter into similar relationships with the research and learning communities of the developing countries in which they operate. One explanation may be that early attempts to develop such contacts were relatively unproductive or were rebuffed. The relative ease with which relationships have flourished in America may have spoiled companies for the more complex courtship that is required abroad. Another explanation may be that the new multinationals have not appreciated fully the changes that have occurred in many of the universities of the developing world. Not only is the research potential of these institutions in science and technology dramatically greater than it was only a few years ago, but many of their leaders today are the products of the best American graduate schools where the research culture they acquired included close corporate links. In any event, the image most MNCs convey abroad is that they insist on short-term results and a rapid return on investment, and that they instinctively choose to conduct their research in their laboratories back home.

This approach may have short-term merits, but the long-term consequences are highly adverse for all concerned. First, the research-oriented faculty in the developing countries is now in danger of languishing for lack of support, taking nonresearch related part-time employment, or leaving academia entirely. When this happens, a valuable investment in human capital made by the country as an international donor is lost. Second, research and development work on the local problems of the MNC ends up being conducted in the higher-cost laboratories of the parent company whose staff may be quite unfamiliar with the local context in which the MNC is operating. By ignoring a large unexploited pool of research talent the corporation misses golden opportunities. The host country also loses the chance to claim its place in the sun. Third, technical graduates of universities in the developing country are doomed to receive a derivative education not enriched by the contributions of a vigorous research community. Because most developing countries have few indigenous corporations that are highly active in technological advancement, these consequences will continue to multiply, retarding the economic development of these societies and limiting the opportun-

ities of the MNCs, unless the MNCs alter their patterns of conducting research and development.

We urge that MNCs examine carefully the full range of options open to them. They can engage in contract research with local university personnel or they can enlist these university personnel in in-house corporate training and research programs. They can provide advanced equipment to the local universities which can be used to train more capable students who would then be better positioned to make a contribution to the corporation upon graduation. After satisfactory conditions of confidence and respect have been established, they could provide staff members to teach highly specialized courses, advise on curriculum, subsidize their employees for part-time study, accept local university strength as a legitimate corporate responsibility grounded in self-interest. Undoubtedly there will be problems, as there have been in relations with some U.S. institutions. Scholars, and especially those who will not benefit directly, will worry about preserving the integrity of the academic institutions, as indeed they should. But the MNCs have shown that they can construct mutually beneficial arrangements in this country and there is no reason why they cannot do the same overseas. Indeed there are some conspicuous examples of their having done so already. But there is a long way to go. By following this route, the MNCs may show that they have not only their own enlightened self-interest before them but the welfare of their host countries as well.

In short our study revealed that a principal need for the foreign students upon their return home is a set of activities and mechanisms by which they can maintain their newly-acquired high levels of expertise. As we have indicated, these can be provided by a variety of institutions in a multiplicity of ways. Without them the process of professional and intellectual decay will continue unabated.

In President Kennedy's inaugural address, when speaking of the peoples of the developing world, he pledged "our best efforts to help them help themselves . . . not because the Communists may be doing it, not because we seek their votes, but because it is right." The President noted that "if a free society cannot help the many who are poor, it cannot save the few who are rich." A constructive partnership among American governmental institutions, multinational corporations, and the academic and research communities of the United States and the developing world would be a concrete application of the late President's pledge.